

PEDIATRIC NEUROLOGY EXAMINATION: MAKE IT EASY

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Certain Pediatric Characters

- don't like being stared at
- lie down when sick
- Leave him to act freely
- limited ability to express themselves

THE SEVEN AGES OF CHILDREN:

1- newborn, neonates	first month of life
2- infancy	1mo to 1 yr
3- preschool child, toddler	1 yr to 4 yrs
4- schoolchild (late childhood)	5 – 12 yrs
5- adolescence a- early adolescence b- middle adolescence c- late adolescence	12 – 20 yrs • 10 -14 yrs • 15 – 16 yrs • 17 – 20 yrs

HELLO
INTRODUCE YOUR SELF
THEN

PERSONAL HISTORY:

- DON'T USE: “a male/female patient aged ... and his name is ...”
- boy or girl (not male or female)
- not use term “patient”THROUGHOUT HISTORY

PERSONAL HISTORY: LISTENING TO MOTHERS

- be good listener : *mother is right until proved otherwise*
- Ask mother to define her terms (? diarrhea, constipation, yellow skin, seizures, etc....)

3 keys for present history

1- first: full C/O of the suggested disease (mentioned or not)

Second: DD of the suggested disease

Third: complication, investigations and treatment response of the suggested disease

CHILD

- OBSERVE THE CHILD
- LET THE CHILD SPEAKS
- DON'T PUSH HIM TO RESPOND

AT THE END, GIVE TIME FOR PARENTS

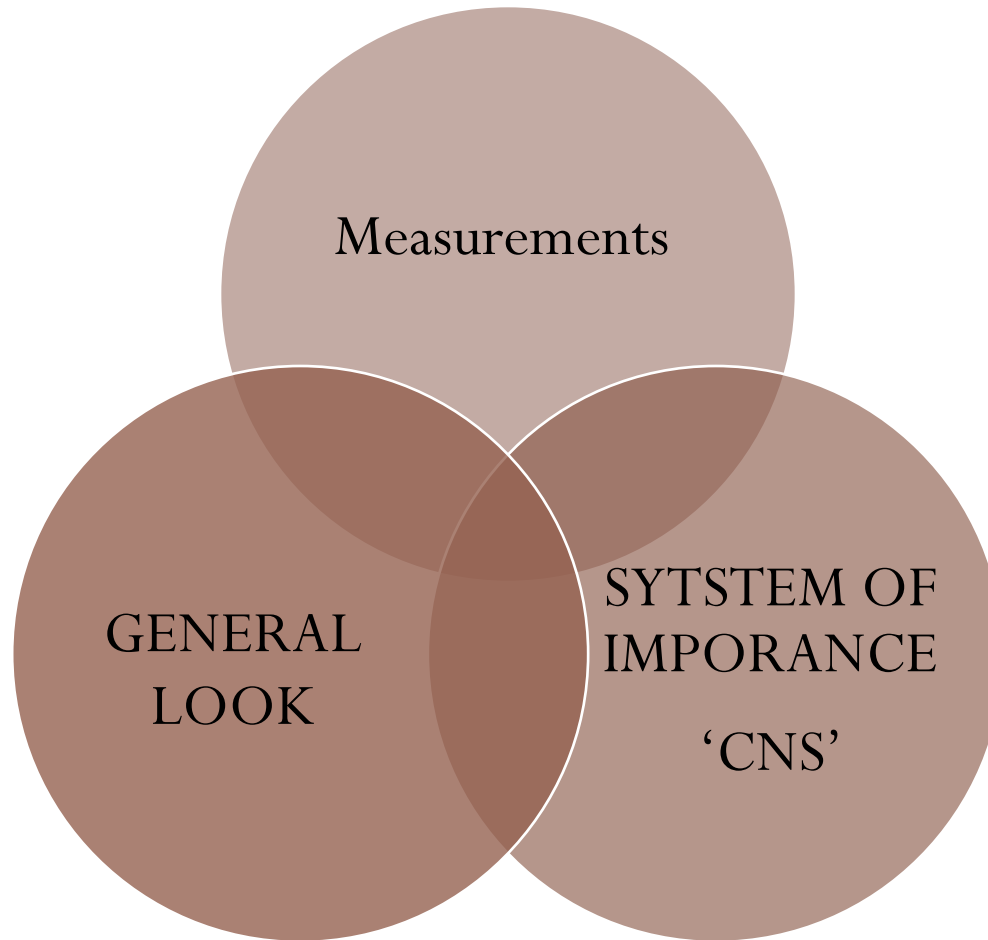
- WHAT IS WRONG?
- WHAT CAUSED IT?
- WHAT WILL BE THE OUTCOME?
- WILL IT HAPPEN AGAIN?

THINGS NOT TO DO

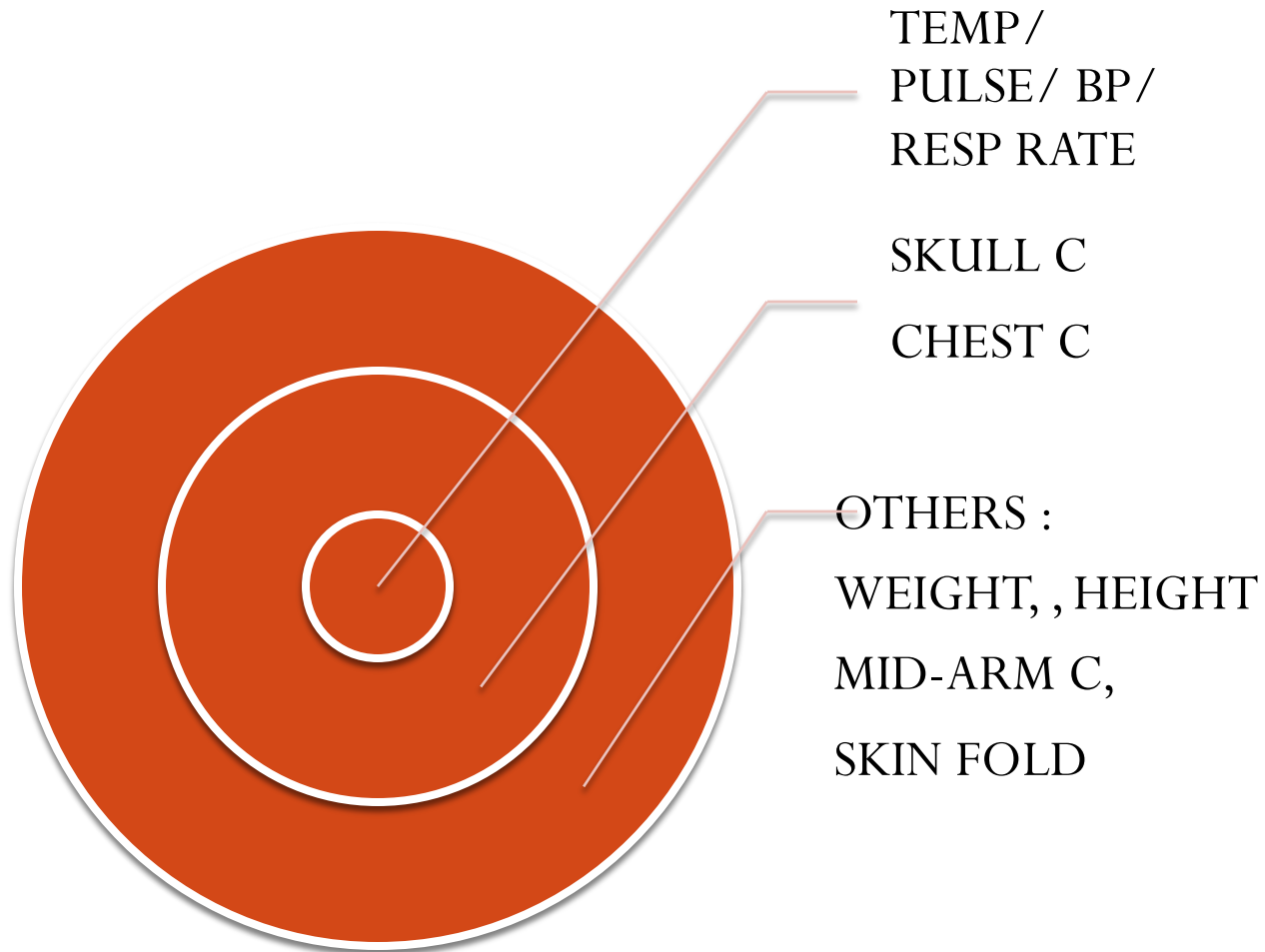
- NEVER USE A WRONG NAME FOR THE CHILD
- NEVER HANDLE A CHILD ROUGHLY : be a parent
- DO NOT MISJUDGE THE CHILD'S AGE: better to overestimate
- DO NOT DISRESPECT THE CHILD'S IDEA: as undressing the child
- DO NOT USE POTENTIALLY WORRING TERM: as epilepsy (صرع) but use recurrent fits (نوبات متكررة), mental retardation (تخلف عقلي) but use (تاخر فى اكتساب المهارات)

General Examination

TRIAD OF EXAMINATION



VITAL SIGNS





DD

- DD Large head
- DD Small head

Skull circumference value as regard age

Age	(cm)
• Birth Full term	35
• 4 months	40
• 12 months	45
• 5 years	50
• 15 years	55







IN ALL CNS

Aetiology

1- GENETIC:

2- Acquired:

3- IDIOPATHIC:

- GENETIC CAUSES:
 - 1- hereditary: AR, AD, AR
 - 2- chromosomal: DS
 - 3- syndrome and DYSGENESIS
- Acquired:
 - 1- prenatal
 - 2- perinatal
 - 3- postnatal (acquired)
- IDIOPATHIC



LMP

labour

FT:1wk
PMT:28 d

? ys



prenatal

perinatal

postnatal

PRENATAL

Baby & contents

- Fetal
- Placenta
- amnion

Gestational

- **bleeding**
- **Hypertension**
- **GDM**

Maternal

- **Rh heart**
- **Ch renal f**
- **Others**

PERINATAL

- Hypoxia (RD)
- HIE
- ICHge
- N. sepsis
- Kernicterus

POSTNATAL <?Y

- Head Trauma
- Meningitis/encephalitis
- Severe dehydration
- IChge (ITP, hemophilia, etc)

IDIOPATHIC

COMMONEST AE

Microcephaly

- AR

MR

- idiopathic (DS, Fragile X)

CP

- prenatal

Craniostenosis

- idiopathic

Epilepsy

- Idiopathic

Hydrocephalus

- XL (aqueductal stenosis)

CNS DEFINITION

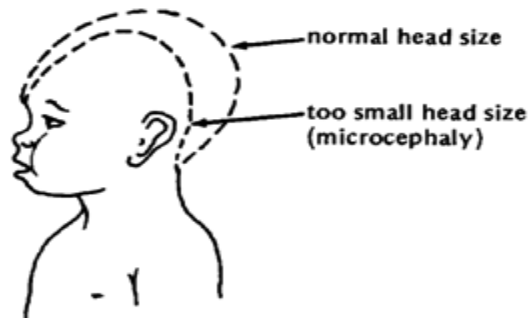
FROM THE NAME ITSELF

DEFINITION

MICRO --- CEPHALY

- 1- Small brain
- 2- due to Defect in **brain growth**
- 3- leads to small head

ie., with skull circumference 3 SD or more below the mean for



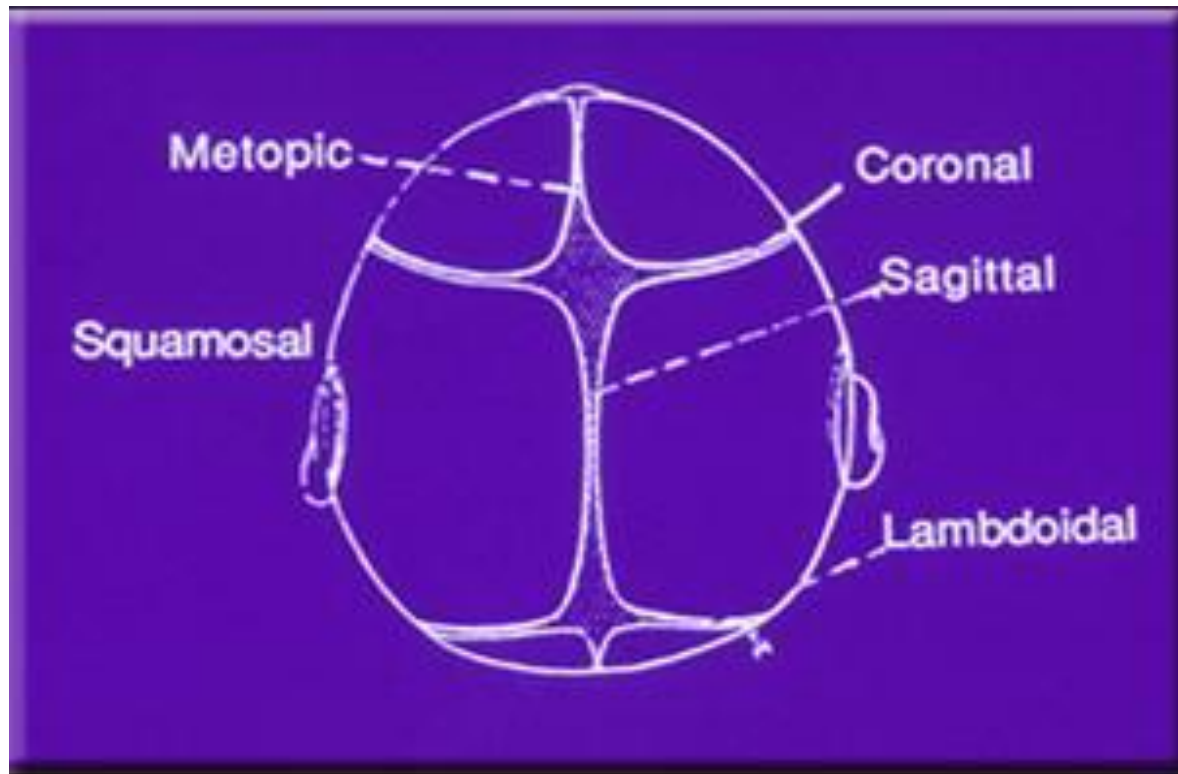
small skull



General examination and Look:

head:

- Fontanel: anterior F, posterior F, sutures



General examination and Look: FACE



Anterior Fontanel

at birth = 0 (2.5 X 2.5 cm)

Closed between 4 mo and 26 mo

At one year : just dimble

Size ---X ---/2

Surface: bulge

Tense

Non pulsated



DD large opened Posterior F

- Hydrocephalus
- Cong hypothyroidism
- DS
- Infantile Rickets

1- head:

- Size: measure head circumference:
 - large head (macrocrania)
 - small head (microcrania)
 - normal head size

head:

Shape:

- - abnormal shaped head: craniosynostosis
- - globular shape” hydrocephalus
(obstructive)
- - occipital protrusion: Dandy Walker



face features:

General look:

- Long face: fragile x syndrome (MR plus autistic features)
- relative small and triangle face: hydrocephalus
- relative large face and ears with sloping forehead and chin: microcephaly
- palate: high arched



Face

Eye:

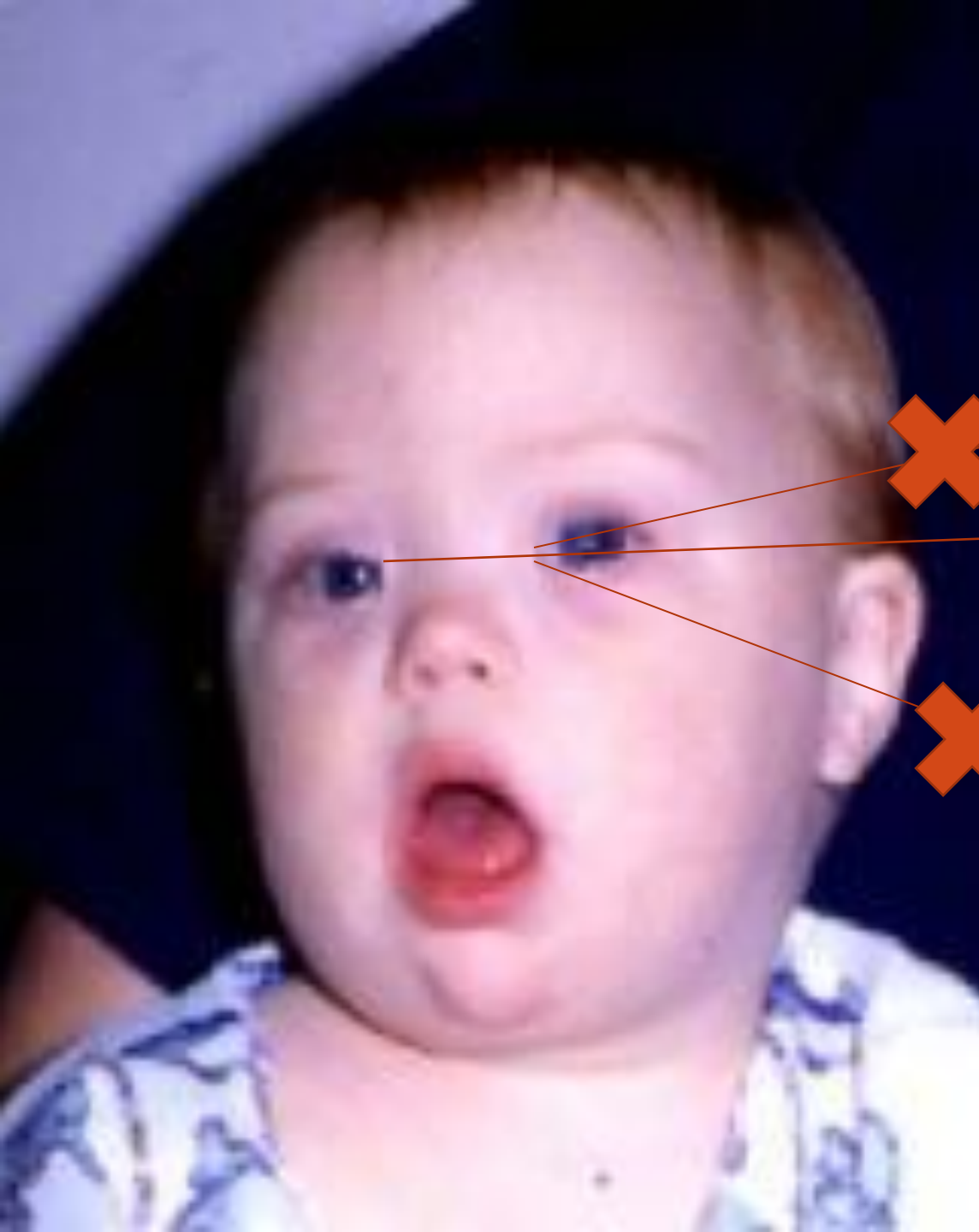
- sunset eyes, ptosis, slanting eyes (DS: up-slanting, Noonan: down-slanting), epicanthus folds, etc

Nose

- depressed bridge, wide bridge, beaked nose upward turn of nostrils (DS), short nose (DS)

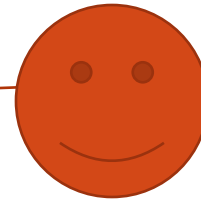
Ears

- Normal set or low set ears, auricles shape (normal folds or simple folds as in DS or deformed as stenosed), normal size auricles or small (DS), position of auricles (normal, posterior rotated, bat ears), ear tags (check kidneys)



EAR

- Small •
- Simple •
- Set (N/low) •



DD sun-set appearance



DD: Sunset apperance:

1- hydrocephalus

2- Kernicterus

**3- proptosis as
hyperthyroidism**

4- physiolog

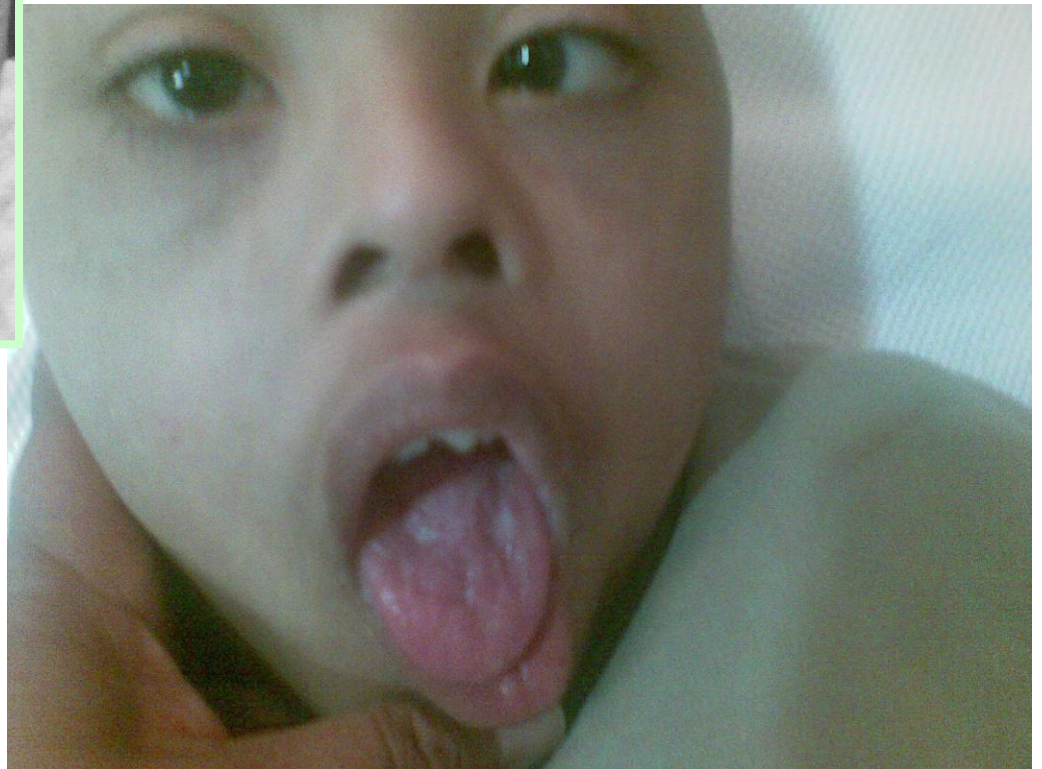


2- face features:

- tongue and mouth
- teeth
- palate

Mouth

- Tongue •
- Palate •
- Teeth/gum •





Number defect

Arrangement defect

- Decreased/Increased number
- decayed
- overcrowded



CNS

1- CORTICAL

2- cranial nerves

3- PNS

CORTICAL

HIGH FUNCTION

- CONSCIOUS
- ORIENTATION
- COOPERATION

INTELLECT

- IQ
- BEHAVIOR
- EMOTION

LANGUAGE

- SPEECH
- ARTICULATION
- HANDNESS

Early Handedness (<2 YS)

- cerebral : as CP hemiplegic
- brachial plexus injury, ERB'S PALSY
- Joint: shoulder arthritis
- bone: fracture clavicle or humerus

Peripheral Nervous System

inspect

palpate

percussion

inspect

1- position

2- muscle state

3- invol movements

inspect

1- position

1-supine

2- pulling to sit

2- standing

3- gait



supine



160



Hold to sit

ABNORMAL



NORMAL •





Gait



CP ataxic.mp4



CP hemigait.mp4



CP hem i.mp4



walking film.AVI



CP tiptoe.mp4

inspect

1- position

2- muscle state

1- wasting

2- normal

3- hypertrophy





inspect

1- position

2- muscle state

3- invol movements

1- tremors

2- choreo-athetosis

3-dystonia

palpate

- Palpate:
1- tone
2- power
+
sensation



sensation :

1- superficial

2- deep

3- cortical

Superficial sensation :

1- pain

2- touch

3- temperature

deep sensation :

**1- joint movement &
position**

2- deep pressure

3- vibration

cortical sensation :

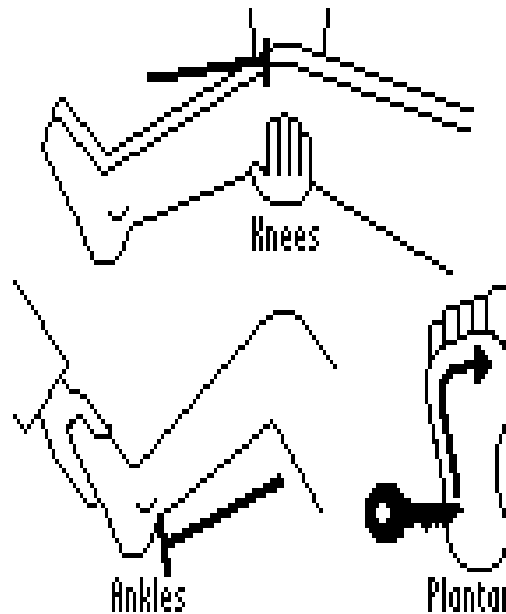
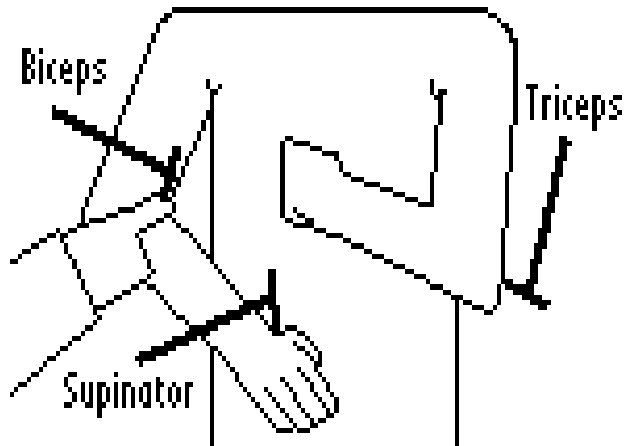
1- astereogenesis

2- graphesthesia

**3- point localization
and discrimination**

percussion

- Percussion: 3
deep tendon reflexes
Superficial reflexes
primitive reflexes



CP.3gp



CP UL reflexes.mp4

Ankle: S1

Knee : L3, L4

Biceps reflex : C5

Brachioradialis: C6

Triceps: C7

umbilicus level: T10

inguinal region : L2

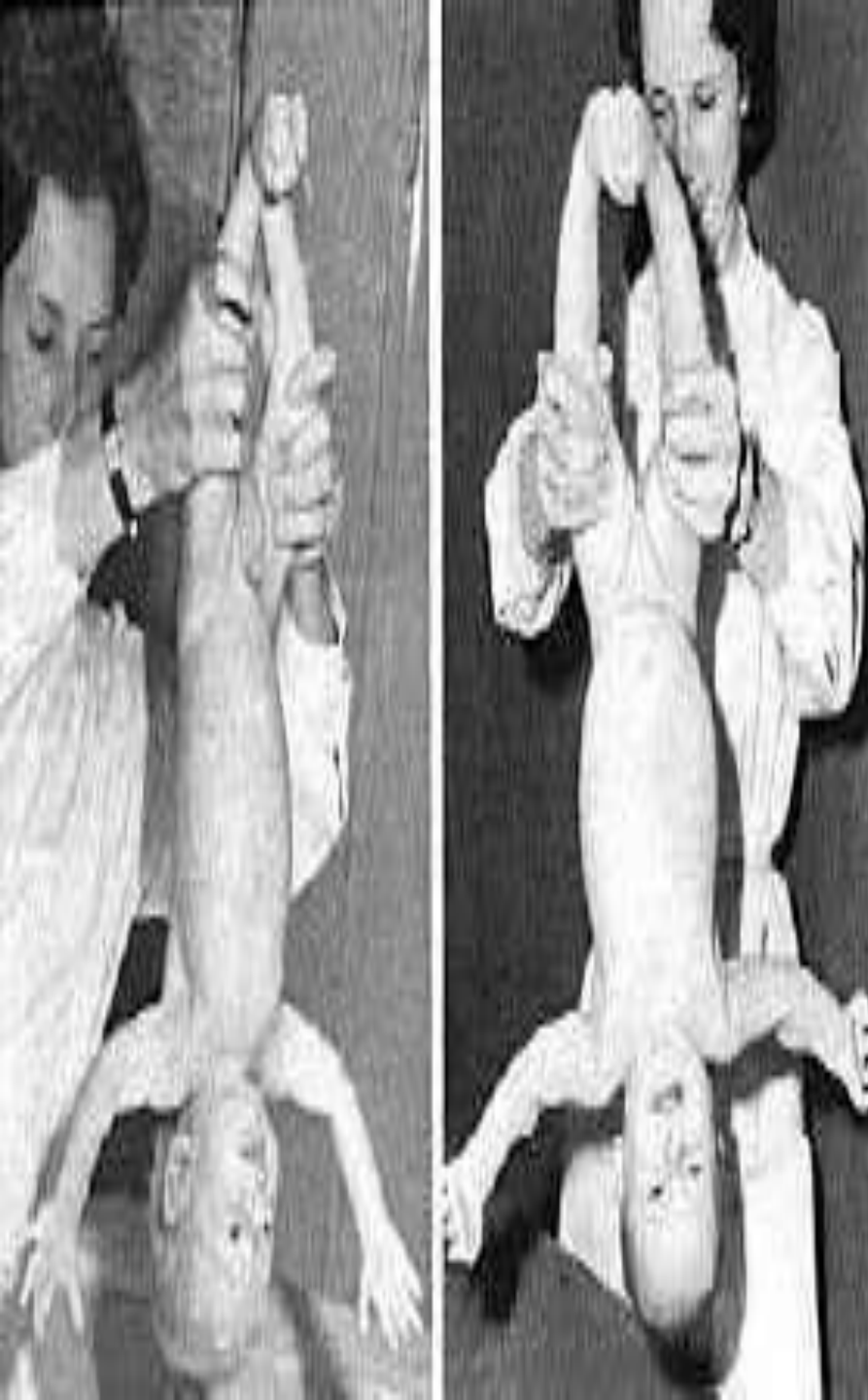
- **Primitive Reflexes**

Moro reflex disappears 3 mo

ATNR disappears 6 mo

Parachute starts 9 mo





Parachute Reflex

starts at 8-9 mo



CP hemipl ul.mp4

Thank You

